

Serial No.: 09/939,824

REMARKS

Claims 27 and 28, as amended, remain herein.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Version with Markings to Show Changes Made."

This Amendment places all claims 27 and 28 in condition for allowance, and surely in better condition for any appeal. Thus, entry of this Amendment and allowance of all claims 27 and 28 are respectfully requested.

Claims 27 and 28 have been amended to recite a method for supplying brushless motors each located in an emboss, wherein each emboss comprises a walled receptacle having a top opening for closure by a film-like cover, internal dimensions for holding therein a brushless motor in a predetermined orientation, one such brushless motor located in each of a plurality of embosses so that the outer peripheral sides of each motor contact inner wall surfaces of an emboss in four directions, the bottom surfaces of the terminals contact a bottom surface of the emboss, and a top surface of the motor

Serial No.: 09/939,824

contacts a tape covering the top opening of the emboss, each emboss thereby retaining a motor in a predetermined orientation.

See the specification, at page 34, describing Embodiment 3 shown in Figs. 8a,b, showing a motor located with a substantially flush-fit between sides, bottom and top within an emboss of a tape, and at page 25, last full paragraph, through page 26, first paragraph, describing motor terminals shown in Figs. 1C and 2, wherein electrical terminals extend parallel to the bottom surface of the motor and only beneath the motor, for alignment with a substrate circuit mounting portion located beneath the motor, as shown in Fig. 3b. As stated in the specification, the external shape of the motor is specified for cooperating with the internal shape of tape packaging for dispensing a motor similar to dispensing typical "solid" electronic components.

1. Claims 27 and 28 were rejected under 35 U.S.C. §103(a) over Bianca et al. U.S. Patent 5,706,952, Fukui Japanese Patent Document JP 10108433 and Braden et al. U.S. Patent 4,753,061.

Serial No.: 09/939,824

The presently claimed method for supplying a brushless motor suitable for surface mounting on a substrate, comprises providing a brushless motor having external peripheral sides shaped to fit into a shaped emboss in a tape-like package as described above herein. The method provides the motor in a pre-oriented position for alignment with a substrate circuit mounting portion located beneath the motor, when dispensed from the tape-like package.

The presently claimed method provides structural limitations recited relative to both the emboss and also the brushless motor, such that specific elements of the emboss cooperatively engage specific elements of the motor. Such recited cooperative relationships between emboss and motor elements orient the motor for automated placement on a substrate. This method is nowhere disclosed or suggested in any of the cited references.

Bianca '952 discloses a reeled tape having embosses for holding electrical or mechanical components for automatic placement on a printed circuit board. However, as the Office Action admits, Bianca '952 does not disclose location of

Serial No.: 09/939,824

motors inside a film-covered, walled emboss of a tape-like package. Moreover, Bianca '952 does not disclose locating a specific type of motor having terminals configured for automated placement on a substrate circuit, i.e., a motor with electrical connections beneath the motor. Bianca '952 does not disclose locating such a motor in an emboss configured such that the outer peripheral side, top and bottom of the motor contact internal surfaces of the emboss to retain the motor in a predetermined orientation.

The Office Action cites Fukui JP '433 for allegedly disclosing a brushless motor, and cites Braden '061 for allegedly disclosing locating chip components in an emboss of a tape-like package and sealing the emboss.

While Fukui JP '433 discloses a surface-mount brushless motor, i.e., a motor having mounting and electrical pads located solely beneath the motor for direct surface mounting of the motor to a substrate, neither Fukui JP '433 nor any other prior art of record teaches or suggests combining such a motor with automated placement techniques, for direct, hands-off mounting of the motor on a substrate.

Serial No.: 09/939,824

Fukui JP '433 discloses a brushless motor, but does not teach or suggest placement of such a motor in an emboss having structural features that ensures successful automated placement of the motor when dispensed from a tape-like package. Braden '061 teaches packaging solid components, such as chip components or hardware in an emboss, but neither Fukui JP '433 nor Braden '061 teaches or suggests applying such packaging to complex electrical-mechanical assemblies, such as a motor, for automated placement on a substrate circuit.

The Office Action seems to take the position that it is commonly known that the requirements for automated placement of simple components and hardware (such as disclosed in Braden '061) are either substantially the same as, or obvious over, the packaging requirements for motor components having substantially more complicated external structural elements. Applicants respectfully submit this is not true. The Office Action has not shown where in the record the prior art teaches that packaging requirements for such differing components are the same. Applicants' respectfully request citation to prior art that supports the assertion in the Office Action that the

Serial No.: 09/939,824

teachings of Braden '061 extend to components having structural features like applicants' brushless motors. See MPFP 2144.03.

For the foregoing reasons, none of Bianca '952, Fukui JP '433, or Braden '061 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching any of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

All claims 27 and 28 are now proper in form and patentably distinguished over all grounds of rejection cited in the Office Action. Accordingly, allowance of all claims 27 and 28 is respectfully requested.


Serial No.: 09/939,824

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P.

March 6, 2003
Date


Roger W. Parkhurst
Registration No. 25,177
Robert N. Wieland
Registration No. 40,225

RWP:RNW/mhs

Attachment: Version with Markings
to Show Changes Made

Attorney Docket No.: YMOR:145B

PARKHURST & WENDEL, L.L.P.
1421 Prince Street, Suite 210
Alexandria, Virginia 22314-2805
Telephone: (703) 739-0220

VERSION WITH MARKINGS TO SHOW CHANGES MADE
SERIAL NO. 09/939,824 - ATTY. DKT. NO. YMOR 145B

27. (Twice Amended) A method for supplying [a] brushless [motor] motors, comprising:

providing a tape-like package having a plurality of embosses arranged along the length of said package, each emboss comprising a walled receptacle having a top opening for closure by a film-like cover and internal dimensions for holding therein a brushless motor;

providing a plurality of brushless [motor] motors each having terminals located on a bottom surface thereof, the terminals having an exposed surface oriented parallel to and beneath said bottom surface;

locating one such brushless motor in each of a plurality of embosses [of a tape-like package] so that the outer peripheral sides of each motor contact inner wall surfaces of an emboss in four directions, the bottom surfaces of the terminals contact a bottom surface of the emboss, and a top surface of the motor is located for contacting a film covering the top opening of the emboss, thereby retaining the motor in the emboss in a predetermined orientation [having a plurality of embosses

Serial No.: 09/939,824

Atty. Dkt. No.: YMOR:145BVERSION WITH MARKINGS TO SHOW CHANGES MADE

arranged in series along the length of said package, each emboss comprising a walled receptacle having a top opening];

retaining a motor in each of said plurality of [emboss] embosses with a film-like cover attached to [said] the top [opening] openings of said embosses; and

winding the package around a reel, so that the wound package may be unwound for dispensing a motor for mounting on a substrate.

28. (Twice Amended) A method for supplying [a] brushless [motor] motors, comprising:

providing a wound, tape-like package having a plurality of embosses arranged [in series] along the length of said package, each [of the plurality of embosses holding a respective brushless motor, each motor retained in an emboss by a film-like cover] emboss comprising a walled receptacle having a top opening for closure by a film-like cover, internal dimensions for holding therein a brushless motor in a predetermined orientation, wherein the brushless motor comprises terminals

Serial No.: 09/939,824

Atty. Dkt. No.: YMOR:145BVERSION WITH MARKINGS TO SHOW CHANGES MADE

located on a bottom surface thereof, the terminals having an exposed surface oriented parallel to and beneath said bottom surface, one such brushless motor located in each of the plurality of embosses so that the outer peripheral sides of each motor contact inner wall surfaces of an emboss in four directions, the bottom surfaces of the terminals contact a bottom surface of the emboss, and a top surface of the motor contacts a tape covering the top opening of the emboss, thereby each emboss retaining a motor in a predetermined orientation;

unwinding the package and dispensing a brushless motor; and mounting [a] said dispensed brushless motor on a substrate.